

REMARKS

In the Office Action claims 1-8, 10, 12-14 and 21-24 were rejected under 35 USC §102(b) as being anticipated by Walley British Patent Specification 765,586. Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Walley. Claims 16-20 were rejected under 35 USC §103(a) as being unpatentable over Walley in view of Baatz U.S. Patent 5,656,001.

The Examiner's explanations as to applicability of the cited references to the claims are noted with appreciation.

Claims 9 and 11 were objected to as being dependent upon a rejected base claim, with an indication that such claims would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

By this response, claims 9 and 11 are amended to independent form, in each case incorporating the limitations of the base claim and any intervening claims. In view of the Examiner's indication, it is thus believed that claims 9 and 11 are in allowable form.

The remaining claims have been amended in a manner believed to patentably define over the references.

The Walley reference discloses a magnetic coupling, such as for connecting a driving shaft 2 to a driven shaft 8. Magnets 1 are mounted to driving shaft 2 for radial movement along guides 3, and are biased inwardly by springs 4. Driven shaft 8 is interconnected with a flange 7 and a cylindrical portion 6. Magnets 1 move outwardly as the speed of driving shaft 2 increases, against the inward bias applied by springs 4. The outward movement of magnets 1 decreases the width of the gaps between the magnet

poles and the cylindrical portion 6, which increases the amount of magnetic flux crossing the gaps to thereby increase the coupling effect and the torque transmitted from driving shaft 2 to driven shaft 8. Walley also discloses that flange 7 may be fixed against rotation, to function as a brake in which an increasing braking torque is applied to shaft 1 when the speed of shaft 1 increases (page 3, lines 111-118).

The Baatz reference discloses a bicycle trainer resistance unit in which a conductive disc 70 is mounted to a shaft 44. Opposing sets of stationary electromagnets 62 and 64 are located on opposite sides of disc 70, and produce eddy currents upon rotation of disc 70 to create resistance to the rotation of shaft 44.

Claim 1, which was originally rejected based on Walley alone, has been amended so as to be directed to a bicycle trainer having a stationary frame that supports a driven wheel of a bicycle, and a resistance unit mounted to the frame. The resistance unit is defined as having a housing supported by the frame, and a roller rotatably mounted to the housing and engaged with the driven wheel of the bicycle for rotation in response to rotation of the driven wheel. The resistance unit is further defined as having a stationary electrically conductive member interconnected with the housing, and a rotatable member rotatably mounted to the housing and adapted to rotate in response to rotation of the roller caused by rotation of the driven wheel. In addition, claim 1 calls for the automatically variable magnetic resistance arrangement to be carried by the rotatable member and to interact with the stationary electrically conductive member to provide eddy current resistance to the roller through the rotatable member.

The Walley reference shows a shaft coupling or a shaft brake. However, Walley contains no showing or suggestion that the disclosed structure can be incorporated in a bicycle trainer, as is specifically set forth in claim 1. Further, Walley and Baatz cannot logically be combined, since Baatz specifically discloses stationary

magnets and a rotatable conductive member located between the magnets. This is in direct contrast to the subject matter of claim 1, which specifically calls for a stationary electrically conductive member interconnected with the housing, and the variable magnetic resistance arrangement to be carried by the rotatable member.

In the Baatz reference, the strength of the electromagnets 62 can be adjusted, so as to adjust the amount of torque or resistance produced by the eddy current brake, by using an electrical conduct circuit. This manipulation of the resistive force is directly contrary to the subject matter of amended claim 1, which specifically calls for an automatically variable magnetic resistance arrangement.

For the above reasons, claim 1 is believed to patentably define over the Walley reference, either or alone or in combination with the Baatz reference. A review of the remaining references of record similarly fails to show or suggest the claimed subject matter, and accordingly claim 1 is believed allowable. Claim 25 depends from claim 1, and is thus also believed allowable for the above reasons as well as in vies of the claimed subject matter.

Claim 3 is also amended so as to be directed to a bicycle trainer having a frame configured to support a bicycle having a driven wheel, and a resistance device secured as a unit to the frame. The resistance device is defined as having a housing supported by the frame, in combination with a roller rotatably supported by the housing and arranged to engage the driven wheel of the bicycle. The resistance device is further defined as having a rotatable member rotatably supported by the housing and interconnected with the roller for rotation in response to rotation of the driven wheel. In addition, claim 3 is amended to call for a stationary electrically conductive member mounted to the housing adjacent the rotatable member, and one or more magnetic members movably mounted to the rotatably member, which are movable relative to the

stationary electrically conductive member and relative to the axis of rotation in response to variations in the speed of rotation of the rotatable member. Claim 3 is also amended to state that the eddy current resistive forces, which are established by the magnetic members and the electrically conductive member, function to resist rotation of the rotatable member to resist rotation of the roller and the driven wheel, with movement of the magnetic members relative to the stationary electrically conductive member functioning to alter the location of the eddy current force relative to the axis of rotation to vary resistance in response to the speed of rotation of the rotatable member caused by rotation of the roller and the driven wheel.

As noted above, the Walley reference simply discloses a shaft brake and is inapplicable to a bicycle trainer as set forth in amended claim 3. Furthermore, as noted above, the combination of Walley and Baatz is inapt, in that Baatz discloses magnets that are stationary and a disc that is rotatable along with the shaft. Furthermore, in Baatz, the resistance is varied by varying the power of the electromagnets, which has nothing to do with variations that are dependent upon wheel speed, as claimed.

For the above reasons, amended claim 3 is believed to patentably define over the Walley reference, either alone or in combination with Baatz. A review of the remaining references of record similarly fails to show or suggest the claimed subject matter, and accordingly claim 3 is believed allowable.

Claims 4-8, 10, 12-15 and 26 depend directly or indirectly from claim 3, and are believed allowable for the above reasons as well as in view of the subject matter of each claim.

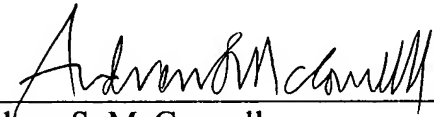
Independent claims 16 and 21 have been amended along the same lines as claim 3. Accordingly, for the reasons noted above with respect to claim 3, it is believed

that claims 16 and 21 also patentably define over the references, and are allowable. Claims 17-20 and 27 depend directly or indirectly from claim 16 and claim 28 depends from claim 21. Such dependent claims are also believed allowable for the same reasons as well as in view of the subject matter of each claim.

Applicant's attorney has made every effort to place the application into condition for allowance with claims 1, 3-21 and 25-28, and such action is earnestly requested.

The Examiner is encouraged to contact the undersigned by phone if questions remain after consideration of this response, or if such would otherwise facilitate prosecution.

Respectfully submitted,

By 
Andrew S. McConnell
Reg. No. 32,272

Boyle, Fredrickson, Newholm,
Stein & Gratz, S.C.
250 East Wisconsin Avenue, Suite 1030
Milwaukee, WI 53202
(414) 225-9755

Customer No.: 23598